

## REMARKS

Claims 1-9, 18-24 and 27 are pending in the present application. Of these, claims 1-4, 8-9, 18-22, 24 and 27 stand rejected under 35 USC § 103(a) as being unpatentable over Rose, U.S. Patent No. 5,629,485 in view of Riebel, U.S. Patent No. 4,706,509. Claims 5-7 and 23 are objected to as being dependent upon a rejected base claim, but recite allowable subject matter.

The Examiner contends that the closest prior art to the pending claims is Rose, which teaches the use of pattern recognition of attenuation curves to determine the composition and/or classification of the material under test. In particular, the Examiner notes at page 6, paragraph 6 of the Office Action, that Rose, "teaches utilizing pattern recognition...[and] There is no teaching of using slopes, widths or other attributes of the attenuation curve to determine the composition of the material under test."

Thus, the Examiner recognizes that the claims of the present invention are novel and patentable to the extent the claims are limited to the use of an attribute of the attenuation curve to determine the composition of materials. These curvature attributes may include but are not limited to the maximum slope of the attenuation curve, the width of the derivative of the attenuation curve and the maximum amplitude of the attenuation curve. The attributes of the attenuation curve do not include pattern matching over a broad portion of an attenuation curve or over a broad range of wavenumbers.

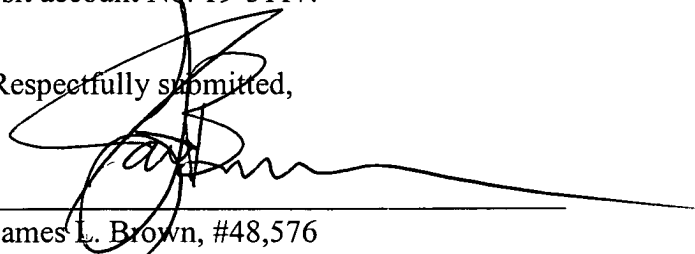
In view of the discussion contained in the Examiner's paragraph 6, the claims herein have been amended to substitute the limitation "attribute of the attenuation curve" for the previous limitation "shape feature." This amendment serves to distinguish Applicant's claimed invention from prior art which relies upon pattern recognition.

Support for the amendment of "shape feature" to an "attribute of the attenuation curve" can be found in the specification at paragraphs 47-52. In particular, support may be found at paragraph 52 where it is stated, "The invention makes use of only the region of the attenuation curve where the slope of the curve increases abruptly corresponding to  $ka \cong 1$ . Thus the required attenuation measurements can be made over a smaller frequency range than prior art methods."

For the reasons set forth above, Applicant respectfully submits the claims as amended are allowable over the art of record and reconsideration and issuance of a notice of allowance are respectfully requested. If it would be helpful to obtain favorable consideration of this case, the Examiner is encouraged to call and discuss this case with the undersigned.

This constitutes a request for any needed extension of time and an authorization to charge all fees therefore to deposit account No. 19-5117 if not otherwise specifically requested. The undersigned hereby authorizes the charge of any required fees not included or any deficiency of fees submitted herewith to be charged to deposit account No. 19-5117.

Respectfully submitted,



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